



Balance

# ANNUAL REPORT 2021

WESTERN AREA POWER ADMINISTRATION

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## LETTER FROM THE ADMINISTRATOR AND CEO

This past year was characterized with hope amid rapid change in both our professional and personal spheres. Energy markets evolved and weather trends became more severe, but WAPA and its people continued to strive for and reach service excellence. COVID-19 leveled off for a time, a safe vaccine was offered and schools and businesses reopened in an invigorated economy. Closer to home, we prepared our people and processes for a different kind of workplace.

We accomplished many of our goals in fiscal year 2021, including:

- Keeping our employees as safe as possible from COVID-19 while still successfully fulfilling our mission.
- Completing energy imbalance management transitions for the Colorado River Storage Project, Rocky Mountain, Sierra Nevada and Upper Great Plains-West and selecting a provider for Desert Southwest.
- Exploring membership in a fully integrated market for multiple regions.
- Updating our mission and vision to include the important tenets of safety and customer service.
- Facing the challenges of drought and high purchase power costs due to adverse operating conditions.
- Supporting the central U.S. during a historic polar vortex with surplus hydropower and grid services.

At the heart of all our work was our theme for this year, "Balance."

Achieving balance was a challenge many of us likely pursued, not just at work but also in our personal lives.

As we adapted and evolved in this extraordinary world, it was critical for us to embody strength, resilience, unity and leadership while also being mindful of our enduring mission, reliability, regional differences and collaborative culture with our customers.

We had to balance the needs and safety of employees with the needs of WAPA, especially regarding COVID-19 and workplace access. We had to balance the requests of our customers with one another and with the needs of our system, now and in the future. We had to balance resilience with affordability and reliability with environmental and financial costs. We had to balance our finite personnel and resources against many organizational priorities and select the most critical system investments based on data and needs. We needed to advocate for the value of hydropower and transmission while also understanding the current of the energy industry transition.

Concurrently, we said so long to Mark A. Gabriel after eight successful years as WAPA's chief executive.

Being selected as WAPA's newest administrator and CEO was an honor, as is the opportunity to lead what I know to be world-class employees who are dedicated to public service and the communities we serve. I want to thank all of WAPA's customers and employees for the trust they have placed in me to lead this incredible organization and its important mission. I commit to continue building on our historic foundation of serving the West with affordable hydropower and transmission services, while facing the winds of change in the energy world and ensuring that all of us continue to have a place in the future.

I look forward to writing the next chapter of our story together as we strive for the appropriate balance between the many opportunities and challenges before us and secure a clean, resilient and reliable future.



Administrator and CEO  
Tracey LeBeau





## MISSION

Safely provide reliable, cost-based hydropower and transmission to our customers and the communities we serve.

## VISION

Empowering communities, securing a resilient energy future.

## ABOUT WAPA

**W**APA is a power marketing administration within the Department of Energy that markets and transmits wholesale electrical power across 15 states through an integrated 17,000-plus circuit-mile, high-voltage transmission system.

Employees work around the clock to sell power and operate and maintain the transmission system that provides energy to:

- Rural electric cooperatives.
- State and federal agencies.
- Investor-owned utilities.
- Municipalities.
- Native American tribes.
- Public utility and irrigation districts.
- Power marketers.
- Joint power authorities.
- Transportation districts.
- Independent system operator corporations.
- Regional transmission organizations.

Our customers then provide electric service to more than 40 million Americans from Texas to the Dakotas, and from the lakes of Minnesota to the California coastline.

# OUR CORE VALUES

## **LISTEN TO UNDERSTAND, SPEAK WITH PURPOSE.**

We must always consider our audience and speak to them in ways that will be clear, simple and relevant. We know active listening is the first step in effective communication. We consider context and check for clarity and simplicity. We are respectful, direct, honest, transparent and consistent. We assume positive intent.

## **SEEK. SHARE. PARTNER.**

We value partnership and actively engage others in the seeking and sharing of ideas. We collaborate to move forward and partner to add value. We actively engage others. We share all relevant information in a timely fashion, acting as one team united in our common mission.

## **RESPECT SELF, OTHERS AND THE ENVIRONMENT.**

We represent WAPA in being good neighbors and stewards of our collective resources. We are compassionate in our relationships with others, as well as toward ourselves. We are respectful in all of our dealings.

## **DO WHAT IS RIGHT. DO WHAT IS SAFE.**

We are public servants who act with integrity, stand up for what is right and demonstrate courage when acting in the best interests of our customers and the communities they serve. We are safe in all of our actions and consider safety in all our planning.

## **BE CURIOUS, LEARN MORE, DO BETTER. REPEAT.**

We seek and welcome feedback to directly and quickly improve. We innovate, plan for the future and support the growth of our teams and colleagues. We reflect upon progress to learn and grow.

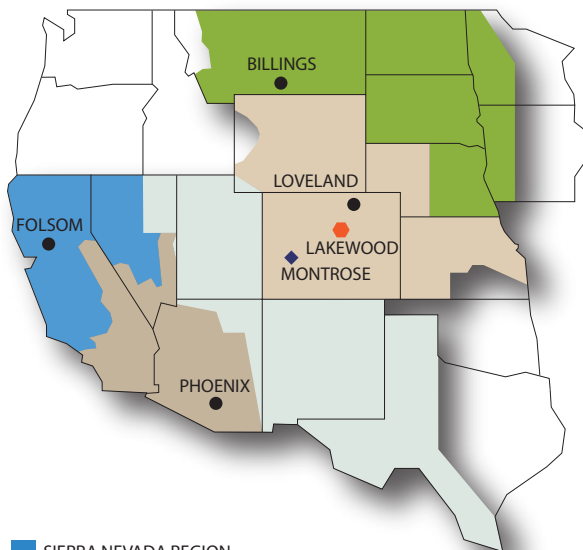
## **SERVE LIKE YOUR LIGHTS DEPEND ON IT.**

We understand the importance of our mission to provide power to customers that serve more than 40 million Americans. We anticipate customer needs, build relationships, seek win-win solutions and embrace responsibility. We work hard to ensure other Americans know and understand the importance of our mission.

# SERVICE AND MARKETING AREAS

**W**APA delivers power from 10 rate-setting projects that encompass both WAPA's transmission facilities and the power-generating facilities owned and operated by the Bureau of Reclamation, the Army Corps of Engineers and the International Boundary and Water Commission. These projects are made up of 14 multipurpose water resource projects and three transmission projects. Power rates are set to recover all costs associated with power delivery, such as annual operating costs, the specific allocated multipurpose costs associated with recovering the federal investment in the generation facilities, with interest, and other costs assigned to power for repayment.

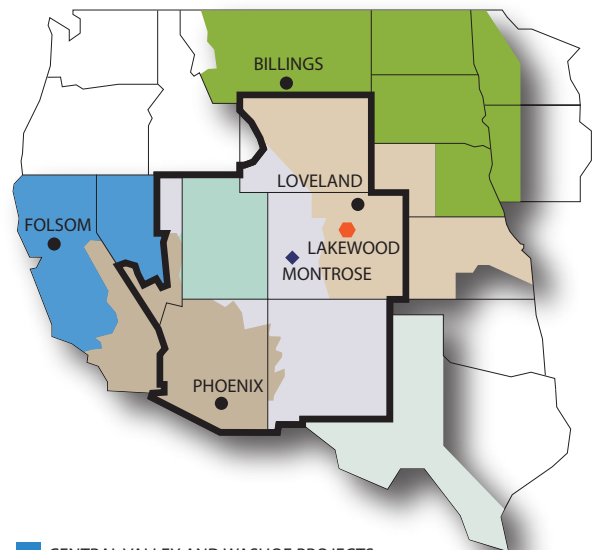
## Service Areas



- SIERRA NEVADA REGION
- DESERT SOUTHWEST REGION
- COLORADO RIVER STORAGE PROJECT MANAGEMENT CENTER
- ROCKY MOUNTAIN REGION
- UPPER GREAT PLAINS REGION
- STATE BOUNDARY
- REGIONAL OFFICE
- ◆ HEADQUARTERS
- ◆ COLORADO RIVER STORAGE PROJECT MANAGEMENT CENTER OFFICE

A service area identifies a region's geographic territory while a marketing area defines the boundaries of a hydropower project's customer base.

## Marketing Areas



- CENTRAL VALLEY AND WASHOE PROJECTS
- PARKER-DAVIS, BOULDER CANYON AND CENTRAL ARIZONA PROJECTS
- FALCON-AMISTAD PROJECT
- PROVO RIVER PROJECT
- LOVELAND AREA PROJECTS
- PICK-SLOAN MISSOURI BASIN PROGRAM—WESTERN DIVISION AND FRYINGPAN-ARKANSAS PROJECT
- PICK-SLOAN MISSOURI BASIN PROGRAM—EASTERN DIVISION
- SALT LAKE CITY AREA/INTEGRATED PROJECTS  
COLORADO RIVER STORAGE, COLLBRAN, RIO GRANDE, SEEDSKADEE AND DOLORES PROJECTS
- STATE BOUNDARY
- REGIONAL OFFICE
- ◆ HEADQUARTERS
- ◆ COLORADO RIVER STORAGE PROJECT MANAGEMENT CENTER OFFICE

# OPERATIONAL SUMMARY<sup>1</sup>

(UNAUDITED)  
(DOLLARS IN THOUSANDS)

	2021	2020	2019
Sales of electric power	\$887,901	\$792,513	\$922,318
Income transfers to generating agencies	(293,326)	(343,721)	(393,795)
Transmission and other operating revenues	677,420	547,791	535,602
Total operating expenses	1,227,207	838,618	814,335
Operation and maintenance	338,059	334,026	297,184
Purchased power	456,516	131,819	155,106
Purchased transmission services	243,811	183,957	173,665
Net interest expense	9,179	13,378	13,172
Net revenues	35,609	144,587	236,618
Completed utility plant	4,725,014	4,687,182	4,583,397
Payable to U.S. Treasury	818,006	817,198	785,768

<sup>1</sup> This summary represents WAPA's stand-alone operational information for the past three years. WAPA will publish its combined financial statements separately after the independent auditor's opinion is issued.

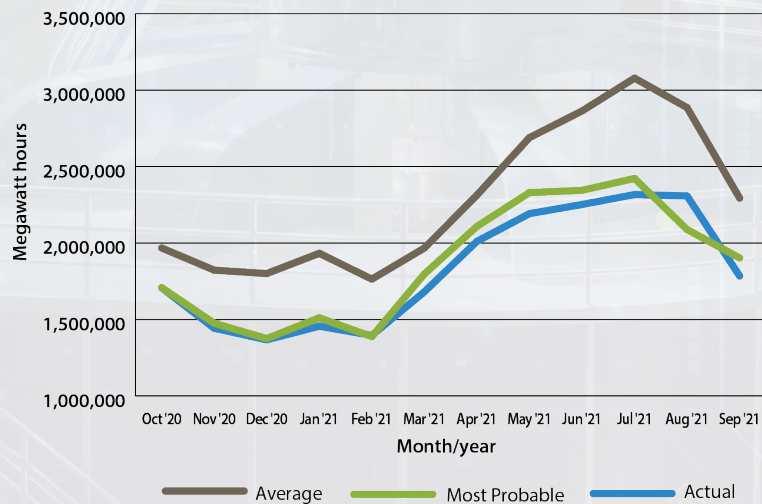
# HYDROPOWER GENERATION

**B**eing in the business of marketing and delivering hydroelectric power, it is impossible to overlook the influence that water has on WAPA's operations. Regardless of the amount of water any given year brings and the amount of hydropower generated, WAPA delivers on its mission and fulfills its commitments to customers.

Net generation  
**21,916**  
gigawatt-hours

**80%**  
of average

Water Year 2021  
Hydropower Generation  
Average vs. Most probable vs. Actual





# BALANCE

In 2021, WAPA decided upon one word as its theme for the year: **balance.**

This may have seemed like a simple concept, but it was an important one. As the world was shaped – and is continuing to be shaped – by the effects of COVID-19, WAPA embraced the concept of balance as a key way of embodying strength, resilience, unity and leadership.

Balance worked its way into everything we accomplished as an organization this fiscal year. We balanced safe practices to mitigate the spread of COVID-19 with a drive to improve and enhance our service. We balanced our traditional role in the industry with a future that involves an increased role for markets. We balanced modern expectations with the needs that customers will have moving forward.

In these pages, you will read about just some of WAPA's accomplishments during fiscal year 2021. It was a period of challenge as well as opportunity, and that particular balance was at the heart of everything we did as an organization. Balance is a crucial, central component in keeping the lights on for more than 40 million Americans.

At WAPA, balance enables us to do that through challenging times, and will enable us to do so into the future.

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## LeBeau appointed administrator and CEO

On Aug. 29, Secretary of Energy Jennifer Granholm appointed Tracey LeBeau as the administrator and CEO of Western Area Power Administration. LeBeau began acting in the position in March and has been a member of the WAPA senior executive team for more than seven years.

“Tracey LeBeau is an extremely qualified selection to serve as the seventh administrator and CEO of the Western Area Power Administration,” Granholm said in her announcement. “I look forward to her steady leadership and dedication on team DOE as we work to deliver more clean energy options to Americans across the country while tackling the climate crisis head on.”

LeBeau is the first woman and, as a member of the Cheyenne River Sioux Tribe, the first Native American to lead WAPA. She joined the Department of Energy in 2011 as a political appointee in the Obama Administration. Prior to that, she was a Principal at Dentons, an international law firm, and served in executive capacities in a variety of energy sectors including energy marketing, interstate pipeline and energy consultancy businesses.

She joined WAPA in 2014 as the organization’s Transmission Infrastructure Program manager where she oversaw the operations and management of WAPA’s \$3.25 billion loan program to support and finance transmission and related infrastructure.



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## SN works with project developers to upgrade Tracy Substation

Exponential growth in renewable projects wishing to interconnect to the California grid means that more than 50 projects could affect current flow at the large and centrally located Tracy Substation within the next five years.

In October 2020, Sierra Nevada completed a holistic system impact study analyzing potential outcomes if these projects came to fruition. It concluded that Tracy Substation required fault-current mitigation to ensure continued reliable service and the ability to accommodate new generation on the surrounding grid.

The solution was to replace the high-voltage breakers with ones that have increased amperage capacity. This was estimated to cost project developers about \$18.5 million and take two to four years, potentially risking project schedules for interconnection applicants. SN staff developed a compliance-based strategy, performed specialized studies and implemented a funding and engineering plan that allowed numerous interconnection projects to move forward while breaker replacements were underway.

Owing to this collaborative approach, more renewable energy necessary to meet growing demand and California’s renewable energy goals will be installed on schedule while ensuring reliable energy delivery.



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## SCADA upgrade improves grid reliability

After years of collaboration between Information Technology, Operations and Maintenance Communications, the R2017 GE PowerOn supervisory control and data acquisition upgrade project for the Rocky Mountain and Desert Southwest regions was successfully completed and put into production June 18.

This upgrade deployed modern hardware, software and operating systems and offers enhanced features and improved situational awareness for operators. The upgrade also resolved many cybersecurity vulnerabilities. One of the biggest benefits for grid operators is full, secure functionality while working remotely. This includes running real-time contingency analysis through a Transmission System Modeling module.

IT and Operations quickly addressed expected issues common with upgrades. By Sept. 1, they had mitigated all system performance issues, addressed user feedback, conducted lessons learned and decommissioned old hardware.



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## CPI program saves, avoids \$114 million in costs

As of the end of fiscal year 2021, WAPA's Continuous Process Improvement program has saved or avoided more than \$114 million in costs since the program's inception.

The program's two Lean Six Sigma Black Belts and 25 matrixed Green Belts help identify process improvement opportunities across the organization and assist and support employees who improve processes that range from daily tasks to large, organizationwide initiatives.

Process improvements typically fall into one of three main categories: CPI projects, Just Do It projects, or formal WAPA projects.

CPI projects specifically led by WAPA's Lean Six Sigma practitioners have avoided approximately \$3.4 million in costs alone. The program has also seen formal WAPA projects, which are projects aligned with WAPA's *Strategic Roadmap 2024* and *Tactical Action Plan*, save another \$46.5 million. Meanwhile, the program's Just Do It projects, which are typically smaller projects identified and led by employees to improve and increase efficiencies in their daily work, have saved or avoided approximately \$64.3 million in costs.

**\$3,386,760**

CPI projects

**\$46,564,812**

WAPA projects

**\$64,330,864**

Just Do It projects

**\$114,282,437**

Total costs saved, avoided



## UGP modernizes Wolf Point-to-Poplar line

In June, more than 20 linemen from Upper Great Plains worked together to replace structures on the Wolf Point-to-Poplar transmission line in Montana. The main goal of the project was the replacement of the overhead shield ground wire with optical fiber, which could not be done with the existing 115-kilovolt structures.

The linemen worked to replace those structures with ones that had been rebuilt to 230-kV specifications. This provides the added benefits that come with the replacement of aging structures, such as an increased ability to sustain growth and a reduction in the amount of maintenance required. The line had to be moved in several places during the replacement of structures and the project is ongoing, but each step increases the reliability and resilience of service.

Initiatives such as this one are examples of the many ways in which WAPA is working, even through a pandemic, to modernize the infrastructure that delivers power to more than 40 million Americans throughout the West.

## SN successfully transitions into EIM

On March 25, at midnight, Sierra Nevada and several other California utilities successfully entered the real-time Western Energy Imbalance Market administered by the California Independent System Operator.

The transition was the culmination of nearly 18 months of preparation and collaboration with customers, including new process and software implementations, updating WAPA's Open Access Transmission Tariff, establishing a new Resource Sufficiency product and adjusting SN's new rate to accommodate market participation. The Western EIM allows participating utilities to more economically balance supply and demand within their respective service areas in real time.

By joining the market, SN can better manage real-time supply and demand, harness market efficiencies, improve cost effectiveness and mitigate the loss of bilateral trading partners in real-time energy transactions. As a result, SN estimates that it will realize around \$1 million in cost savings and avoidance annually.



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## Aviation's sUAS program lifts off

WAPA's Small Unmanned Aircraft System, or sUAS, pilot program concluded in March 2021, reporting significant savings in cost and time, as well as a reduction in risk by eliminating the need for crews to climb structures and equipment solely for inspection purposes.

The program, which won an Inclusion, Innovation and Technology Award, began in 2018 and identified several potential uses for the sUAS, largely for inspection-related tasks for transmission lines and substation equipment and integration into WAPA's maintenance operations.

Jobs such as a transformer inspection at a 345-kilovolt line at Glen Canyon in Page, Arizona, which can typically require up to three different outages and 90 employee hours were completed in as little as 15 minutes using an sUAS.

Aviation has procured 10 Information Technology-approved, American-made sUAS units in addition to the three used in the pilot, and has plans to expand the program further.



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## WAPA updates mission and vision

In the summer of 2020, WAPA worked with customers and other stakeholders to clarify the organization's mission and vision statements to affirm WAPA's identity in a changing world. Reflecting on WAPA's core values, they collaborated to identify what is and will be relevant in the coming decade.

Three themes emerged: safety, a cornerstone of the electric industry; the empowerment of communities, with carbon-free energy driving economic development, providing a sense of security and stability and protecting the environment; and resilience, the ability to prevent, withstand and recover from disruptive threats and events.

WAPA debuted its new mission and vision statements in January.

**Mission:** Safely provide reliable, cost-based hydropower and transmission to our customers and the communities we serve.

**Vision:** Empowering communities, securing a resilient energy future.

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## Procurement, craft team up for efficient field work

In December 2020, Desert Southwest craft employees teamed up with Procurement to obtain a semi-tractor that streamlined the process for loading poles onto trailers.

Previously, six craft employees, three work trucks, one line truck, one semi-tractor and one trailer were used to load and unload poles. With the new self-loading vehicle, the task requires only two craft employees, one work truck and one trailer.

An initial design planning meeting addressed technical requirements, engineering designs and contractor requirements. Over the course of several months, designs were prepared and proposed, to ensure the vehicle would be suitable for the terrain encountered during fieldwork and meet state road and bridge regulations. The process was further slowed by factories shutting down in response to COVID-19, delaying production.

It took a great deal of effort to procure the equipment, but the improved efficiency, functionality and savings in cost and labor will be appreciated by DSW field crews for years.



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## Modern Workplace provides increased flexibility, collaboration

In 2020, Information Technology began a phased, multiyear implementation of Microsoft's Modern Workplace, a cloud-based collection of tools and programs to enhance the work experience with the flexibility of working from different locations or devices.

WAPA's current maximum telework posture and geographically dispersed workforce require these enhanced methods of communicating and collaborating. This is an important step in building a technology environment that seamlessly serves employees into the future.

In fiscal year 2021, IT deployed a number of Modern Workplace tools and initiatives. These include Microsoft Teams, a collaboration platform that serves as the hub of all Modern Workplace products; Microsoft Forms, an integrated survey application; Microsoft Planner, an integrated task and project management tool; Intune, WAPA's new mobile device management system, providing security controls, patching and upgrades; and SharePoint migration to the cloud, an 18-month project that fundamentally changed the underlying structure of the application, resulting in quicker access to information for employees.

Additionally, IT leaders created around a dozen job aids and hosted nearly 30 training sessions to help employees maximize the benefits of the Modern Workplace tools.

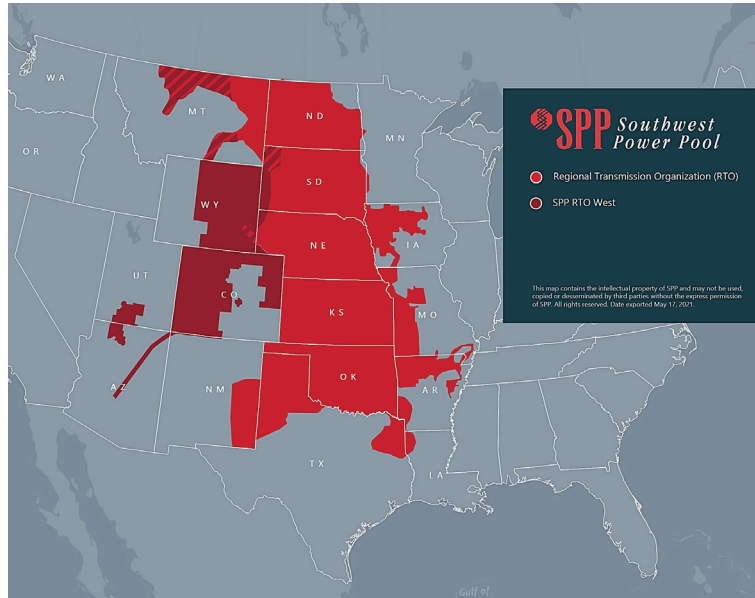


## Regions evaluate RTO membership

Multiple WAPA regions and organizations are exploring full membership in the Southwest Power Pool Regional Transmission Organization. Upper Great Plains-West and Rocky Mountain announced their intent to explore SPP RTO membership in November 2020, followed by the Colorado River Storage Project in April 2021.

Participating in SPP's exploratory effort to expand the RTO into the Western Interconnection is consistent with WAPA's commitment to considering alternative ways of doing business that will retain and increase the value of WAPA to customers now and in the future. It also builds on a successful legacy of working with markets in the West to leverage efficiencies and manage reliability. WAPA continues to work with customers and SPP on this initiative to evaluate whether or not membership is feasible and beneficial.

If the RTO West initiative evaluation continues to progress as planned, WAPA anticipates publishing a *Federal Register* notice in early 2022 to initiate a public process regarding final negotiations for RTO membership. The target for market implementation is early to mid 2024.



### Employee recognition highlight

#### Civil engineer wins Emerging Leader Award

In May, Civil Engineer Rebecca Afsar received the Emerging Leader Award from RMEL – formerly the Rocky Mountain Electrical League – in Denver, Colorado.

"The Emerging Leader Award is RMEL's opportunity to recognize new talent in the industry from RMEL's member companies," said RMEL Executive Director Richard J. Putnicki in his announcement. "The award honors RMEL members with five to 10 years of industry experience who are making an impact through significant contributions within their organization and the electric energy industry."





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## WAPA responds to drought conditions

This summer, many states in WAPA's footprint faced severe dry conditions. By June, the U.S. Drought Monitor classified 60% of the western U.S. as being under severe, extreme or exceptional drought.

On Aug. 16, the Bureau of Reclamation released a Colorado River Basin 24-Month Study, used to set operations for Lake Powell and Lake Mead in 2022. In doing so, they also declared the first-ever water shortage in the Colorado River Basin.

WAPA takes its drought response seriously, as the organization is aware of the challenges and difficulties faced by its customers throughout the West.

WAPA has collaborated with external stakeholders and held interregional, cross-program conferences to discuss and address contractual issues, rate impacts, customer communication and purchase power and wheeling costs and reserves, all with an eye toward exploring additional flexibilities and authorities to ensure the continued affordability and reliability of WAPA's services.

The severity of the drought varies in all of WAPA's regions, each of which is addressing its own unique challenges.

Colorado River Storage Project employees are working with power customers to find solutions to alleviate any loss of hydropower generation, including adjustments to power rates and developing additional mitigation strategies.

Desert Southwest staff is working with Reclamation and customers to alleviate hydropower concerns from Hoover Dam, which supplies the energy needs of around 8 million people. The Boulder Canyon Project markets hydropower from Hoover Dam, with all generated output sold to customers on a pro-rata basis to align with available capacity, itself dependent upon the elevation of Lake Mead.

DSW also manages the Parker-Davis Project, where WAPA is contracted to provide a specific amount of power. Generation for the Parker-Davis Project is dependent upon water orders from users downstream of the Hoover, Parker and Davis dams, many of whom use the water for agricultural purposes. DSW is engaging in conversations with customers regarding mitigation options for financial impacts.

In Sierra Nevada, employees are collaborating with Reclamation to schedule Central Valley Project generation to be available to power customers during high-value hours, minimizing customers' exposure to potentially high-cost power from the market. Additionally, the region has provided price certainty for power customers by purchasing power for late 2021.

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## SN assists in post-storm power restoration

On Jan. 26, northern California was hit by a powerful storm, consisting of high winds, rain and, in some areas, up to 12 inches of snow. This resulted in damage to many transmission lines, leaving more than 80,000 residents without power.

Sierra Nevada had anticipated the severity of the storm and encouraged craft employees to prepare for unexpected work. SMUD contacted WAPA with a request for mutual aid, and a line crew from Elverta, California, responded and worked through the night. They continued to assist the utility district with power restoration for several days.

During restoration efforts, Redding Electric Utility contacted SN for assistance, as they required help reaching a 115-kilovolt line section that had been downed in an inaccessible area. Crews assisted with this and also with the repair and restoration of a 13.8-kV line owned by the Bureau of Reclamation. They worked early into the next morning to repair the damage and keep restoration efforts ongoing.

In total, 10 linemen worked through rain, winds and snow in addition to the managers and support staff who assisted in restoring power to residents.



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## In-house skills save \$6 million on FIMS upgrades

The Financial Information Management System, which provides the backbone of WAPA's financial operations, underwent a performance boost in fiscal year 2021. The upgrade lays the groundwork for WAPA to standardize intragovernmental transactions and enables patches to occur while the system remains fully functional. The refreshed system also modernizes the front end and provides more user-friendly forms and reports.

In 2015, during an earlier upgrade, the FIMS vendor added functionalities, modernizing the look and feel of the application's front end. The 2015 upgrade took nine months and had approximately 20 consultants performing the majority of the work, costing nearly \$8 million.

Since then, Finance and Information Technology have invested significant time enhancing the skill sets of WAPA staff. Most of the FIMS enhancements completed in fiscal year 2021 with in-house personnel would have been impossible before honing the expertise of employees. Only two consultants were brought in to assist, avoiding roughly \$6 million compared with the old model.



## WAPA dedicated to inclusive and diverse workplace

In 2021, WAPA continued to advance the organization's inclusion and diversity initiatives through senior leadership engagement, enrichment opportunities for employees and broadening the understanding of equity and social justice.

Signed by the entire Senior Leadership Team, WAPA's Statement on Race and Social Justice, published in late 2020, pledged to tackle issues surrounding race and equity. It formalized the organization's commitment to ensuring that all employees receive the same respect, treatment and opportunity.

WAPA continued to provide its staff with valuable educational opportunities during the pandemic, with programming featuring historical presentations on Buffalo Soldiers, Japanese Americans incarcerated during World War II and the LGBTQ+ community in the United States.

Additionally, WAPA collaborated with the Department of Energy to develop a strategic approach to supporting President Biden's executive orders related to racial equity and his Justice40 Initiative, a plan to focus climate investments within disadvantaged communities.



### Western Area Power Administration's

Senior Leadership Team commits to tackling critical issues surrounding racial and social justice. In step with our core value to learn more and do better, we commit to the following direct and immediate actions in our workplaces and the communities we serve:

- We speak up against racism and intolerance of any kind; silence is not acceptable.
- We broaden the conversation on racial and social justice.
- We address policies, systems and practices that negatively impact progress on diversity and inclusion.
- We strive to eliminate any barriers in hiring, retention and opportunities for advancement.
- We educate every employee about the importance of recognizing unconscious bias and demonstrating courage to interrupt that bias.
- We make fundamental long-term changes to address these challenges.

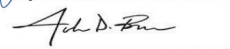
  
Mark A. Gabriel  
Administrator and CEO

  
Kevin Howard  
Executive Vice President and Chief Operations Officer

  
Roddy Surry  
Acting Senior Vice President and Chief Financial Officer

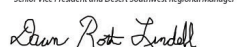
  
Michael M. Montoya  
Senior Vice President and Chief Information Officer

  
Jennifer Rodgers  
Acting Senior Vice President and Chief Administrative Officer

  
John Bremer  
Senior Vice President and General Counsel

  
Dionne Thompson  
Senior Vice President and Assistant Administrator for Corporate Liaison

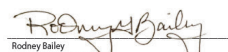
  
Tracey LeBeau  
Senior Vice President and Desert Southwest Regional Manager

  
Dawn Roth Lindell  
Senior Vice President and Rocky Mountain Regional Manager

  
Sonja Anderson  
Senior Vice President and Sierra Nevada Regional Manager

  
Lloyd Linka  
Acting Senior Vice President and Upper Great Plains Regional Manager

  
Steven R. Johnson  
Senior Vice President and Colorado River Storage Project Management Center Manager

  
Rodney Bailey  
Power Marketing Advisor

  
Melissa Ardis  
Chief of Staff

  
Stacy Chicker  
Acting Chief Strategy Officer

  
Teresa Waugh  
Chief Public Affairs Officer

  
Carl A. Durnett  
Power Marketing Administration Human Resources Shared Service Center Director

  
Nikki King  
Senior Human Resources Business Partner



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## Experiment takes aim at smallmouth bass

Non-native smallmouth bass pose an existential threat to native fish throughout the Upper Colorado River Basin, being highly predaceous and competitive for resources.

In June, the Colorado River Storage Project Management Center, Colorado State University, the Bureau of Reclamation and other partners in the Endangered Fish Recovery Program conducted a flow spike experiment targeting smallmouth bass eggs and larvae, disrupting their reproduction in the Green River through a well-timed, abrupt increase in river flow.

WAPA collaborated with Argonne National Laboratory and the program partners to determine the correct conditions and variables. A related goal was to use the flow to generate electricity, keeping costs down for customers and ensuring that all of the water produced power.

From 12 p.m. on June 21 to 4 p.m. on June 24, Reclamation ramped up flow at Flaming Gorge from about 860 cubic feet per second to 4,600 cfs. The temperature of the river also dropped around 10 degrees, resulting in a “cold shock” meant to discourage invasive fish from spawning.

In July and September, the team revisited the testing locations and collected biological data to measure larval and juvenile smallmouth bass abundance. The results will be used to continue protecting native fish while preserving hydropower.

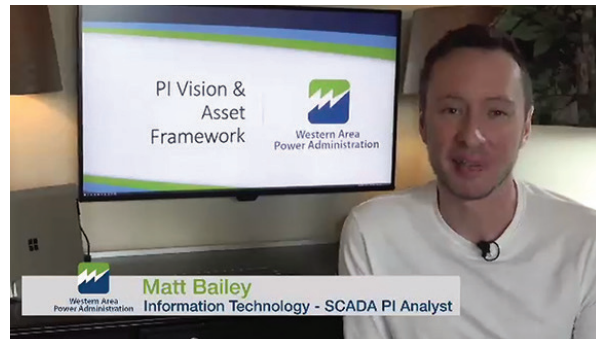
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## I2T Summit goes virtual

In keeping with its name, the Inclusion, Innovation and Technology Summit, or I2T Summit, kicked off its fifth year by flexing its innovative muscle in a completely remote setting.

The event's theme – Innovation Takes Everyone in a Changing World – was chosen prepandemic, and it proved to be especially prescient. The remote event unfolded over the course of two days, allowing more people to join in, including several guest speakers.

The I2T Summit included an Innovation Challenge, during which employees worked together in teams to address real-world obstacles facing WAPA. There was a focus, appropriately, on solving the challenges of remote communication and collaboration. A number of employees also received I2T Awards for their innovative contributions toward helping WAPA adapt as an organization to a maximum telework posture.



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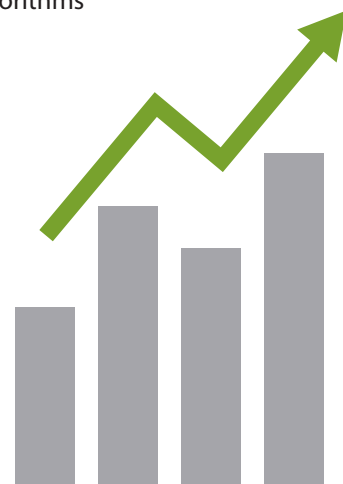
## Asset Management improves asset data quality

In fiscal year 2021, Asset Management partnered with Information Technology to establish governance around the collection, management and visualization of asset data to ensure consistency and integrity for data consumers.

AM also made a concentrated effort to improve access to existing data, such as by using Microsoft Power BI software to help end-use consumers visualize complex analytics to improve maintenance and investment decisions. AM is focusing on improving the data collection and algorithms present on existing asset classes and adding asset classes to support 10-year capital planning efforts.

Growing the geographic information system platform is an additional priority to educate internal consumers on GIS benefits to non-traditional functional areas such as wildfire preparedness, Power System Operations and Environment.

As employees continue to learn about the benefits and value of WAPA's data – within their own department and others in the organization – there will be a cultural shift toward a more communal and thoughtful approach to data collection. This will create a deeper understanding of how each department's data affects others and push toward ensuring better data reliability across WAPA.



## Knowledge Management strengthens knowledge retention

Launched in 2017, the Knowledge Management Resource Center has become the organization's central repository for video explanations of complex programs, projects and initiatives.

In fiscal year 2021, Knowledge Management collaborated with Public Affairs and the Inclusion, Innovation and Technology Committee to produce promotional videos and short project profile videos for the I2T Summit in November. Knowledge Management itself was recognized with two awards at the event in honor of the program's accomplishments.

Knowledge Management collaborated with the Office of the Chief Financial Officer to develop the Institutional Knowledge Campaign, the first of its kind at WAPA. This initiative uses videos to document all of the workflows within the OCFO, helping the department to transfer knowledge and improve processes.

Knowledge Management has also collaborated with the Transmission Infrastructure Program to produce comprehensive documentation of the TIP loan process, which has received heightened visibility from the Department of Energy as an avenue to help with construction of renewable energy resources.

Additionally, Knowledge Management collaborated with Reliability and Compliance to standardize processes and increase the visibility of individual expertise within WAPA and provided critical training support to the Information Technology Modern Workplace initiative.

**1,100**  
Total videos in library

**300**  
Videos added in FY 2021

**2,500**  
Approximate monthly views

**60+**  
Department/function  
classrooms

**500**  
Employees participating in  
video production



### Employee recognition highlight

#### WAPA attorney joins EBA Board of Directors

In May, the Energy Bar Association announced that Transmission Infrastructure Program Attorney Erin Green has joined its board of directors. She joins other board members from the Edison Electric Institute, Texas Retail Energy, George Washington University Law School and more.

Green has been involved with the EBA since 2014. In her new capacity, Green will serve as the liaison to the EBA Young Lawyers Committee.



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## Communications team collaborates to increase reliability



On Sept. 1, the Communications team upgraded the microwave system at Havre Substation and westward in Montana. This involved modernizing the microwave equipment and multiplexers in support of a new Internet Protocol Multiprotocol Label Switching infrastructure.

The project is the result of two and a half years of work, including several delays procuring the necessary equipment as a result of the pandemic. It enhances communication reliability and increases efficiency of operations while replacing aging equipment.

The initiative relied on the combined efforts of Communications, Information Technology and the Havre line crew, who physically upgraded the existing towers in support of the project.

As well as enhancing power system operational communications, the system supports new wireless access points for electricians and Maintenance employees to use, allowing them to transmit their logs and other documents as they work in substations. They are able to check email and other communications, allowing them to be more accessible and responsive while on the job. The connection speed and bandwidth also increased substantially from around one megabit per second to around 400 Mbps.

This initiative improves efficiency and enhances WAPA's communication capabilities in the field.

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## WAPA regions join new WEIS market

On Feb. 1, WAPA and several other organizations became the inaugural members of the new Western Energy Imbalance Service Market operated by Southwest Power Pool.

The WEIS market is an energy imbalance market responsible for matching real-time supply and demand on a five-minute basis. Upper Great-Plains West, the Rocky Mountain region and the Colorado River Storage Project, with project and information technology support from Headquarters, spent 15 months planning and preparing for the transition into WEIS.

WAPA held more than 200 meetings with customers in the affected balancing authorities, established new business practices, completed a short-term rate process, defined new settlements processes and coordinated with the generating agencies.

WEIS is expected to balance real-time supply and demand, increase price transparency and address balancing authority constraints.



## Aviation soars in 2021

WAPA's aviators conducted 100% of the mandated Federal Energy Regulatory Commission and North American Electric Reliability Corporation aerial patrols, emergency callouts, aircraft maintenance and pilot training throughout fiscal year 2021, continuing to serve as an integral component of the organization's efficiency and success in the field.

Helicopters enable employees to inspect any given structure and its components with a bird's-eye view, as well as quickly transport maintenance crews. WAPA's pilots and their helicopters perform a critical function assisting the managers, crews and craftsmen with maintenance and oversight of the entire delicate infrastructure, often at a moment's notice.

During the COVID-19 pandemic, Aviation staff and flight crews developed cockpit flight procedures and thorough preflight sanitizing in compliance with Federal Aviation Administration and Centers for Disease Control and Prevention recommendations to reduce the risk of exposure and mitigate the challenge of social distancing in the confined space of the aircraft.

The program provides personnel and equipment services for various programs and departments throughout WAPA. Its primary mission is transmission line patrol. Aviation also provides external load operations for repairs, such as moving equipment and personnel to locations where terrain or other issues restrict access.

### Aviation

1,525

Hours flown

50,950

Patrol miles flown

### Human External Cargo

9

Jobs completed

55

Linemen trained, kept current

200+

Miles of line maintained

184.2

Flight hours worked

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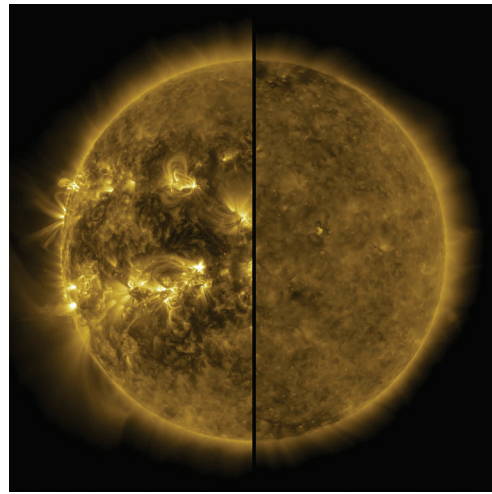
## New capability shields grid from solar storms

Space weather events can cause disturbances in Earth's magnetic field that induce electric currents in grounded transmission equipment. These geomagnetically induced currents, or GICs, can cause voltage dips and physical damage to transformers and protection systems that can impact customers.

WAPA has developed a monitoring system to alert operators and gather data ahead of and during these events. The system detects rapidly changing currents where the power transformer ties into the grounding system of WAPA's substation, giving control center operators instant awareness of threats to transmission system equipment.

The monitoring device is a highly sensitive current transformer that sends a GIC measurement, accurate to one-tenth of an amp, to the supervisory control and data acquisition system that operators use to run the grid.

Armed with the best information, transmission system dispatchers can take immediate action to prevent equipment from overheating, preserve operating service margins and continue to ensure reliable service to customers.



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## 3D lidar scanner software improves accuracy

In fiscal year 2021, WAPA successfully integrated its 3D lidar scanner with Autodesk ReCap Pro viewing software. This was a collaboration between Headquarters Engineering and Rocky Mountain, with employees from several departments learning the program.

The software allows employees to view 3D scans of various WAPA facilities, and it has already proven its value in terms of enhancing the accuracy of available site information. It has helped to both confirm and correct information in existing engineering drawings.

Increasing access to accurate information in this way saves time and money, avoiding the necessity of sending field personnel to each site whenever verification is necessary. During pandemic conditions, this also improves employee safety.

The 3D lidar scanner itself was procured in FY 2020, allowing engineers to obtain high-definition images and survey data of any WAPA facility from a safe distance. The equipment now allows WAPA to scan around 20 sites per year more efficiently and at a reduced cost.

Engineers can use these scans to view and tour 3D models of these sites remotely, reference actual elevations and measurements of equipment, assist with training and determine accurate facility ratings for compliance purposes.



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## WAPA responds to increasing cyber threats

Cybersecurity attacks are on the rise, the threat landscape is changing and WAPA anticipates that this trend will continue.

Fiscal year 2021 saw an increased number of high-profile attacks, and the Cybersecurity and Infrastructure Security Agency issued four Emergency Directives, three of which required action and response from WAPA. This represents a 300% percent increase in EDs related to actual attacks when compared to the previous year.

WAPA stood up three Incident Response Teams in responses to the EDs and partnered with the Department of Energy's National Laboratories to complete forensic investigations of and determine exposure to the incidents.

In an effort to keep WAPA's workforce vigilant and educated about cyber threats, WAPA's Cyber Security Program performed four phishing campaigns of varying levels of complexity throughout the fiscal year. The final two WAPA-wide campaigns saw clickthrough rates of 0.5% and 2.8% respectively, down from nearly 17% and 29% during the first two campaigns.



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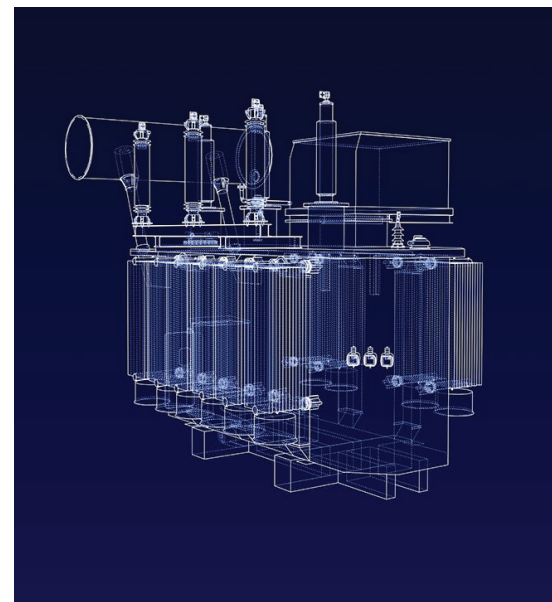
## Pilot automates transformer data transfer

In fiscal year 2021, the Asset Management Program Initiation Project brought employees from Asset Management, Information Technology, Maintenance and more together to collect transformer Mega Volt-Amp data in order to calculate the first transformer health-index scores.

This data collection process required WAPA to license and use Plant Interface Historian software. Rocky Mountain and Desert Southwest were the first regions to build and launch PI Asset Framework and send that data to WAPA's central PI system.

The team created an automated process for linking PI Historian data to assets in Maximo using RM and DSW transformer data as samples, which allowed for the sending of PI data which would otherwise overload the system.

The automatic process was successfully able to retrieve accurate, weekly MVA data, calculate transformer load and transfer that data from PI Historian to Maximo. In the past, this was conducted only once every three years.





## LeBeau joins DOE 100-day town hall

In May, then-Interim Administrator and CEO Tracey LeBeau spoke at the Department of Energy's first virtual town hall under new leadership at the White House.

Secretary Jennifer Granholm reflected on the first 100 days of the Biden Administration and highlighted DOE's accomplishments and goals moving forward, such as accelerating grid expansion, creating well-paying jobs and increasing access to reliable, affordable and clean power.

LeBeau provided updates regarding WAPA's role in energy markets and transmission infrastructure financing. She vowed to partner with the DOE to modernize the grid for generations to come.



### Employee recognition highlight

#### High voltage electrician celebrated for heroism

In January, High Voltage Electrician Randy Hammit received the Civil Air Patrol Silver Medal of Valor, the highest decoration a Civil Air Patrol member can receive. The honor – recognizing “distinguished and conspicuous heroic action, at the risk of life, above and beyond the call of normal duty” – was presented to him as a result of his actions during an active-shooter incident at Westgate Entertainment District in Glendale, Arizona, in May 2020.

Hammit and High Voltage Electrician Marvin Moone happened to be nearby. They – along with Hammit's wife, Kelli – put themselves in harm's way to administer first aid to two wounded victims before paramedics were able to arrive.

Additionally, Glendale Mayor Jerry Weiers presented proclamations to the Hammits, and the Glendale Fire Department presented them with its Life Safety Award.



## Safety shows success in a challenging year

Safety and Occupational Health continued to play an integral role during the COVID-19 pandemic by providing support and guidance in line with updates from the Department of Energy and the Centers for Disease Control and Prevention.

The program also increased its communication with, and support of, regional safety specialists and managers, ensuring continued engagement with field employees through challenging times.

Additionally, Safety and Occupational Health provided industrial hygiene and safety consultation related to facility ventilation and filtration upgrades, personal protective equipment and a COVID-19 Workplace Safety Plan.

The program collaborated with Information Technology to develop an online tool to increase and enhance safety communication. Launching in 2022, this “Report a Safety Concern” site will enable employees to express their concerns easily and receive direct safety manager follow-up and corrective actions in a timely manner.

Safety and Occupational Health also continued to produce Learning Summaries, Near-Miss Reports, bimonthly *Safety Works* newsletters and monthly installments of Safety Corner in *Closed Circuit*, all of which promote employee engagement and a resilient safety culture.

The Safety Incentive Program – which rewards employees for engaging in specialized and general workplace safety activities – also saw its highest level of participation yet, with 1,009 employees across WAPA documenting their commitment to safety on the job.

**1,009**  
Safety Incentive Program  
participants

**21**  
Articles addressing safety  
topics

**8**  
Near-Miss Reports

**16**  
Learning Summaries

**0.3**  
Recordable Incident Rate

**0.6**  
Previous year's Recordable  
Incident Rate

**1.7**  
Average Recordable Incident  
Rate for Electric Power  
Transmission, Control and  
Distribution as reported by the  
Bureau of Labor Statistics

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## DSW Energy Imbalance Study benefits customers

In fiscal year 2021, Desert Southwest came to a conclusion that had been 16 months in the making: Joining the California Independent System Operator Energy Imbalance Market would provide significant benefit to the region and its customers.

The decision stemmed back to the summer of 2019, when customers Arizona Electric Power Cooperative, Central Arizona Water Conservation District and Southwest Public Power Agency suggested that DSW study available market options.

WAPA employees from various programs – including Power Marketing, Information Technology and Power Operations and Transmission Services – worked together to do exactly that, comparing both the projected benefits of and costs associated with market opportunities to determine which market best suited DSW.

For the benefits study, WAPA collaborated with customers, Argonne National Laboratory and Energy and Environmental Economics on modeling projected loads, generation and transmission to feed into simulated dispatches for each market. For the cost study, employees worked with Utilicast to compile a list of gaps relative to current operations when compared to market operations.

After a nearly two-year process, the overall DSW Energy Imbalance Study concluded that the CAISO EIM provided the best combination of benefits and customer preference, and the collaborative study process allows the region to manage a complex market transition with a high level of customer support.

DSW is targeting 2023 for implementation.



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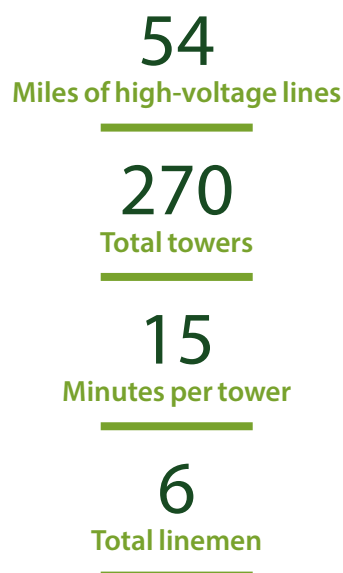
## HEC work makes for speedy improvements

Between July 13-21, WAPA crews from around Upper Great Plains completed human external cargo, or HEC, work on the White-to-Split Rock 345-kilovolt transmission line on the eastern edge of the state. During the project, workers maintained the section from White to Interstate 90, a 54-mile stretch that included 270 transmission towers.

Crews replaced the four static dampers on each tower, which protect transmission lines by absorbing vibrations from wind and other sources.

HEC involves using a helicopter to transport three sets of two linemen in leapfrog fashion between towers, a much quicker and easier experience than climbing. Once the dampers were replaced at the trailing tower, the pair of linemen clipped their harnesses into a longline and were flown ahead to the next tower at the front of the operation.

All of the work was performed while the lines remained energized, using live-line techniques and following proper safety protocols.





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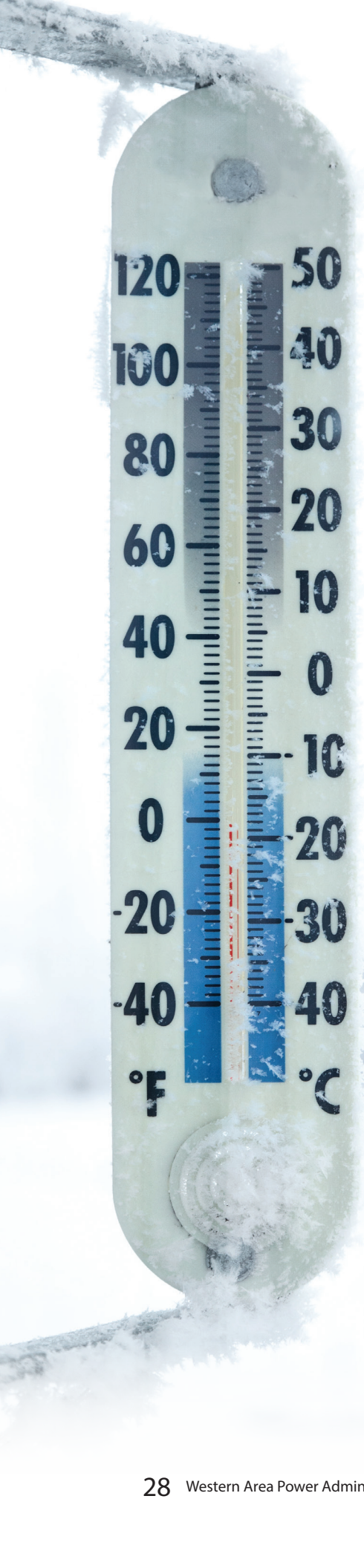
## Spring disturbance flow charts new highs, lows

Maintaining the health of the ecosystem is crucial to WAPA in terms of its hydroelectric power operations. In March, Colorado River Storage Project Management Center staff and the U.S. Geological Survey's Grand Canyon Monitoring and Research Center studied how spring floods affect the production of bugs and fish as well as other conditions below Glen Canyon Dam.

The Bureau of Reclamation needed to perform repair work on an apron – the dam's footing – at Glen Canyon Dam, providing the opportunity to study the effects of a low flow, followed by a higher flow with the water that was held back during the repair.

The plan was to draw the river down significantly March 15, with flows only around 4,000 cubic feet per second, allowing divers to perform the apron repair. Between March 20-22, flows would ramp up to around 20,150 cfs, continuing until March 25 and providing valuable data about spring flooding.

Because the Spring Disturbance Flow occurred when power prices were relatively low, and because there wasn't any water bypassed around the turbines at Glen Canyon Dam, the cost to hydropower production was estimated to be only a few thousand dollars. This is significantly lower than traditional high-flow experiments, which incur costs between \$1 million and \$3 million.



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## Winter energy shortage tests grid limits

When Winter Storm Uri hit the Southwest Power Pool's footprint in February, residents and businesses turned up their thermostats and electric grid operators from North Dakota to Texas struggled to meet demand.

On Feb. 15, SPP's grid reached a peak load of 43,661 megawatts. After expending its reserves and importing power from other regions, SPP faced a supply shortfall of 641 MW.

During the next two days, WAPA was directed by SPP to periodically shut power off on a rolling basis to maintain the integrity of the grid. Twenty-one WAPA utility customers throughout WAPA's Upper Great Plains region experienced outages for an average of 55 minutes, some of them multiple times for different loads. For some larger cooperatives, WAPA cut power at various delivery points at different times but never curtailed the same load twice.

In total, SPP interrupted electric service over those two days to reduce regional energy consumption. The first curtailment was by about 1.5% systemwide for 50 minutes Feb. 15 and again the next day by about 6.5% for just over three hours.

During that week, WAPA worked with the Army Corps of Engineers to provide significant generation increases from the Missouri River hydropower dams to support the grid.

In coordination with WAPA, the Corps boosted hydro production at morning and evening peak hours with up to 740 MW per hour in additional generation. In total, WAPA and the Corps sent 22,500 megawatt-hours of additional hydropower to SPP between Feb. 15 and 18, enough to power between 700,000 and 800,000 homes.

WAPA also purchased power off the spot market to make up the difference between available hydropower and the firm power contractually required by customers.

WAPA maintains financial reserves to make additional power purchases to fill the gap when available energy falls below what is promised to customers. Financial reserves enable WAPA to weather difficulties like the one in February and continue to reliably supply its customers.

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## Crop duster collision with T-line leads to Tribal collaboration

On March 31, a crop-dusting helicopter struck the Gila-to-Knob 161-kilovolt transmission line in Yuma, Arizona, at around 6 p.m., causing a service interruption. The helicopter left the scene immediately after collision, and by 6:30, linemen were on site to assess the situation and the damage.

Repairs required access to the nearby Fort Yuma-Quechan Reservation, which necessitated approval from the Tribe. WAPA quickly connected with Tribal representatives, who were aware of the incident and allowed crews to make any necessary repairs on the reservation.

The impacted transmission line was located on irrigated lands, requiring crews to minimize disruption to agricultural activities.

WAPA partnered with the Quechan historic preservation officer regarding environmental matters and with adjacent landowners regarding efforts that could be necessary post-repair. The project also involved the grounding and removal of the affected conductor, which required coordination with a neighboring utility.

The line was back in service the next day.



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## Compliance program embraces virtual auditing

WAPA's North American Electric Reliability Corporation Compliance Program supports the organization's mission by demonstrating and documenting compliance with NERC standards.

In fiscal year 2021, the program conducted mock audits in Rocky Mountain and Sierra Nevada, performed in advance of Western Electricity Coordinating Council audits. The mock audits consisted of training, evidence preparation, evidence review, logistical planning, issue resolution and serving as the primary interface between WAPA and WECC.

Due to the pandemic, the mock audits and WECC audits were performed virtually, taking advantage of the new tools and processes that had been developed to ensure continuing audit quality in a remote environment.

The program collaborated with Cyber Security and WECC to improve future audit activities. It has also developed a collaborative internal site to improve coordination between various WAPA groups with similar governance functions.



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## Integrated Vegetation Management enhances grid resilience

The devastating wildfire season of 2020 burned more than 13.5 million acres, destroyed more than 17,600 structures and cost about \$3.6 billion for fire suppression, according to the National Interagency Fire Center. In response, WAPA continues to take proactive steps to reduce the effect of wildfires on power transmission and delivery.

In coordination with the U.S. Forest Service, the Rocky Mountain region completed an environmental impact statement, or EIS, that allows transmission line maintenance, decreases fuel-loading hazards and improves reliability. The final EIS was published in August. It analyzed a range of environmental issues and proposed actions designed to mitigate hazards to the lines, such as falling trees due to age, lightning or wildfire within WAPA's rights of way.

The Forest Service has approved several special use permits to conduct work along WAPA lines on Forest Service lands in Rocky Mountain, giving crews the environmental green light to access overgrown areas.

In July, Desert Southwest vegetation management crews focused their attention on vegetation within the Navajo-to-Long House Valley 230-kilovolt transmission line's right of way in Arizona. This involved hand-cutting incompatible vegetation and trimming trees as necessary to minimize vegetative threats to the safety, security and reliability of the transmission system. This required coordination with the Navajo Nation, and WAPA agreed to salvage and stack usable firewood out of felled juniper, pinyon pine and ponderosa pine for residents' use.

Sierra Nevada continued its partnership with Trinity Public Utilities District to expand rights of way, mitigating the threat to transmission lines from wildfires. This initiative enhances the reliability of power distribution, improves transmission line access and protects nearby communities and natural and cultural resources.

## Leadership Development supports WAPA's future

During fiscal year 2021, its first full fiscal year, the Leadership Development Program established itself as an important avenue of professional development within the organization.

The program offered courses on topics ranging from interviewing skills to influencing and political savvy, and it tailored content to specific groups, such as new employees, foremen, emerging leaders and senior leaders. In addition, the program hosted a Leadership Essentials series of monthly webinars to help employees at all levels hone and develop their skills as leaders, as well as monthly meetings of its "non-book-club book club," in which participants discuss leadership-related podcasts, articles and videos.

Leadership Development has plans to roll out new opportunities, expand open-enrollment course offerings, have all supervisors complete the WAPA-specific 360-degree assessment and more, all in addition to its monthly offerings.

3

Open-enrollment courses

3

Monthly Micro Learning Programs/Forums

7

Formal programs announced

60

360-degree leadership assessments completed

800

Employees trained



### Employee recognition highlight

#### Pilot receives Award of Merit

In March, Helicopter Pilot Todd Slade received an Award of Merit for Five Years of Accident-Free Flying for the U.S. Department of Energy. The award was presented by Aviation Manager Rich Westra.

Slade is one of several WAPA pilots. He supports Rocky Mountain Maintenance, Construction, Communication and Lands. He also serves as Aviation's instructor pilot. Slade has more than 25 years of experience as a commercial pilot, law enforcement officer and first-responder pilot with Flight for Life.





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## WAPA employees participate in DOE leadership program

In 2020, five WAPA employees were selected to participate in the Department of Energy's Leadership Development Program, sponsored by the University of Maryland. In fiscal year 2021, all five selected employees completed the program successfully.

This eight-month program was a career-development opportunity designed for new and existing leaders. It focused on strategic alignment across all leadership levels to drive transparency and accountability throughout the DOE. Participants were encouraged to develop critical leadership skills and improve their leadership competency proficiencies.

The program was conducted virtually due to the ongoing COVID-19 pandemic.

WAPA's participants were Human Resources Specialist Allison Burnett, Information Technology Web Architect Vitaliy Demchuk, Information Technology Specialist Corinna Gonzalez, Human Resources Specialist Courtni Hively and Human Performance and Just Culture Program Manager Krystall Valencia.

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## OSEM, Strategy partner for security culture

Ensuring the security of our workforce and our nation's infrastructure is of the utmost importance to WAPA. This year, the Office of Security and Emergency Management teamed up with Strategy to assess WAPA's security culture, a term that refers to the norms, values, attitudes and beliefs that support a safe and secure workplace for all employees.

The team released a survey to employees in May to identify strengths and determine where improvements are needed. The analysis of the survey results examined various functional groups' opinions across a range of attributes, such as clear expectations, accountability, teamwork, mutual respect and the resolution of reported problems.

OSEM is using the survey data and feedback from WAPA focus groups to develop strategies and actions for improvement. WAPA's security culture is a critical facet of WAPA's overall culture, and this partnership is the first major step in its continuous improvement.



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## Service Portal advances self-service culture

In fiscal year 2021, requests made through WAPA's Information Technology Service Portal, a one-stop shop for employees to get help with common IT services, increased by more than 150% over the previous year, reaching 19,434 unique exchanges.

The Service Portal also deployed two new options to help employees get quick and convenient help.

The Temporary Facilities Access Request launched Feb. 1 and has since processed 9,043 TFARs WAPA-wide in eight months, reducing administrative burden and avoiding more than \$250,000 in associated costs. This feature standardized a process for tracking employees and numbers of employees entering WAPA facilities during the pandemic.

WITCC Chat, an instant messaging service that connects employees to agents in WAPA's IT Call Center, launched June 1. After piloting the program for two months, WITCC was able to expand its hours to handle more volume via chat. This streamlined management of employee interaction and issues resulted in 30%-faster resolution.

In August, self-service requests outnumbered WITCC calls and emails for the first time, representing a continued maturation of self-service culture. This trend results in improved organizational efficiency and reduced overall cost to deliver IT services.



### Employee recognition highlight

WAPA recognized for extraordinary contributions to pandemic response

In January, then-Secretary of Energy Dan Brouillette presented The Secretary of Energy Achievement Award to the Department of Energy Office of Emergency Operations – Primary Mission Essential Function #3 Team for extraordinary contributions to the DOE's COVID-19 response.

The team included employees from WAPA, including then-Administrator and CEO Mark A. Gabriel, Chief of Staff Melissa Ardis, Senior Vice President and General Counsel John D. Bremer, Supervisory Contract Specialist Jerad Gaines, Executive Vice President and Chief Operations Officer Kevin Howard, Senior Vice President and Chief Administrative Officer Jennifer Rodgers, Senior Vice President and Assistant Administrator for Corporate Liaison Dionne Thompson and Legislative Liaison Kathy Tyer.

"The superior leadership and crisis management expertise of the Office of Emergency Operations was invaluable to the Department's ability to prepare for, mitigate, respond to and recover from the effects of the pandemic," said Brouillette's announcement. "The early response actions and sound continuity practices championed by the Office of Emergency Operations enabled the Department's ability to maintain essential functions."

# PEOPLE AND DOLLARS

**H**ow WAPA effectively applies and manages its resources is central to its success in delivering on its mission and operating safely, securely and reliably. Below is an illustration of where WAPA's people and dollars were deployed in fiscal year 2021.

Just over half of WAPA's employees supported the reliability of the electric grid, and the largest percentage of funds was attributed to the organization's marketing function, which includes purchase power and wheeling.

These figures do not include resources assigned to and paid for by the Transmission Infrastructure Program.

## RELIABILITY

**767  
people**

and

**25  
percent**

of dollars invested  
in maintenance  
and related areas.



## DELIVERY

**203  
people**

and

**4  
percent**

of dollars dedicated  
to power operations.



## MARKETING

including purchase power and wheeling

**172  
people**

and

**63  
percent**

of dollars committed  
to power marketing  
areas.



## COST-BASED

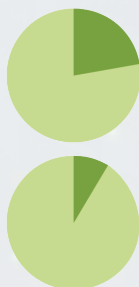
and related services

**337  
people**

and

**8  
percent**

of dollars applied to  
support the mission.



# CUSTOMER IRP SUMMARY

**W**APA's Integrated Resource Planning requirements, outlined in Section 114 of the Energy Policy Act of 1992, give customers several options to comply with the law's energy-planning clauses. Customers must submit annual progress reports and new integrated resource plans every five years, either individually or cooperatively. Customers who meet specific criteria are also allowed to choose from three additional IRP reporting options—small customer plans, minimum investment reports or energy efficiency and renewable energy reports—instead of a full IRP.

In fiscal year 2021, WAPA received 129 IRPs from individual customers, 407 plans from cooperatives, 62 minimum investment reports, 132 small customer plans and one energy efficiency/renewable energy report.

## Top 5 demand-side management activities:

- Lighting
- Load management
- Air conditioning upgrades
- Rebates
- Audits and envelopes

## Top 5 renewable energy resource choices:

- Solar
- Wind
- Geothermal
- Small hydro
- Biogas/mass

## Customer IRP accomplishments<sup>1</sup>

Item	CRSP MC <sup>2</sup>	DSW	RM	SN	UGP	Total
DSM <sup>3</sup> savings (kW)	39,385	252,877	284,758	544,415	629,127	1,750,562
DSM savings (kWh)	88,163,668	994,774,611	561,395,868	207,791,412	629,325,411	2,481,450,970
DSM expenditures (\$)	21,069,081	106,982,067	85,353,542	35,421,897	49,110,680	297,937,267
DSM deviations <sup>4</sup> (\$)	440,215	-3,434,985	8,652,007	-7,667,542	8,123,077	6,112,772
Renewables (kW)	681,681	2,789,478	1,732,142	3,853,597	1,275,557	10,332,455
Renewables (kWh)	2,048,404,098	4,657,688,661	6,882,757,846	10,087,231,216	4,524,594,174	28,200,675,995
Renewable expenditures (\$)	59,472,278	195,683,067	210,062,655	201,466,947	94,995,690	761,680,637
Renewable program types	Solar, wind, geothermal, hydro, biogas/mass	Solar, geothermal, hydro, wind, biomass/gas	Wind, solar, hydro, biogas/mass, green tags	Solar, hydro, biomass/gas, wind, geothermal, green tags	Solar, biogas/mass, wind, green tags	Solar, small hydro, geothermal, wind, biogas/mass, green tags
Top 5 most frequent DSM activities	Load management, rebates, lighting, insulation, HVAC	Water efficiency, lighting, DSM, HVAC, audits	Lighting, load management, AC, audits, rebates	Commercial lighting, commercial AC, residential appliances, residential lighting, residential AC	Lighting, AC, rebates, heating, ventilation	Lighting, load management, AC, rebates, audits
Top 5 renewable energy activities	Solar, wind, geothermal, hydro, biogas/mass	Solar, geothermal, small hydro, wind, biomass/gas	Wind, solar, small hydro, biogas/mass, green tags	Solar, small hydro, wind, geothermal, green tags	Solar, biogas/mass, wind, green tags <sup>5</sup>	Solar, wind, geothermal, small hydro, biogas/mass
Top 3 customer-reported trends	Solar, hydro, load modelling / forecasting	Solar, power purchase agreements, hydro	Power purchase agreements, electrification, fuel switching	Not reported	Wind, solar, biogas	Power purchase agreements, electrification, renewables
# of IRPs from individual customers	3	53	24	13	36	129
# of IRPs from cooperatives	3 (comprised of 20 entries in total)	9 (comprised of 68 entries of MIR, SCP and IRP)	7 (comprised of 84 entries of MIR, SCP and IRP)	0	20 (comprised of 235 entries of MIR, SCP and IRP)	407
# of MIRs	0	18	4	3	37	62
# of SCPs	0	49	20	31	32	132
# of EE/RE Reports	0	0	1	0	0	1

<sup>1</sup> The FY 2021 IRP filings of some customers are not represented in these numbers due to filing dates falling after the creation of this report.

<sup>2</sup> CRSP MC customer Energy Planning and Management Program accomplishment data was estimated, due in part to COVID-19.

<sup>3</sup> DSM refers to demand-side management activities the utility conducts to change customer energy use.

<sup>4</sup> Deviations refer to differences from the customer's IRP.

<sup>5</sup> Only four activities were reported.

# SENIOR EXECUTIVE TEAM

Administrator and Chief Executive Officer	TRACEY LEBEAU
Executive Vice President and Chief Operating Officer	KEVIN HOWARD
Senior Vice President and Chief Financial Officer	MICHAEL PETERSON
Senior Vice President and Chief Information Officer	MICHAEL MONTOYA
Senior Vice President and Chief Administrative Officer	JENNIFER RODGERS
Senior Vice President and Assistant Administrator for Corporate Liaison	DIONNE THOMPSON
Senior Vice President and General Counsel	JOHN D. BREMER
Senior Vice President and Colorado River Storage Project Manager	TIM VIGIL
Senior Vice President and Desert Southwest Regional Manager (acting)	JACK MURRAY
Senior Vice President and Rocky Mountain Regional Manager	BARTON BARNHART
Senior Vice President and Sierra Nevada Regional Manager	SONJA ANDERSON
Senior Vice President and Upper Great Plains Regional Manager	LLOYD LINKE

## EX-OFFICIO MEMBERS

Power Marketing Advisor	RODNEY BAILEY
Chief of Staff	MELISSA ARDIS
Chief Strategy Officer (acting)	LAURA DAWSON
Chief Public Affairs Officer	TERESA WAUGH
Power Marketing Administration Human Resources Shared Service Center Director	CHERYL REESE

Note: This information reflects the Senior Executive Team as of Sept. 30.

# CONTACT WAPA

Contact your local WAPA office or Public Affairs in Lakewood, Colorado, to share your comments or to find out more about WAPA.

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800.867.2617

## **COLORADO RIVER STORAGE PROJECT MANAGEMENT CENTER**

1800 South Rio Grande Avenue  
Montrose, CO 81401-4800  
801.524.5493

## **DESERT SOUTHWEST REGIONAL OFFICE**

P.O. Box 6457  
Phoenix, AZ 85005-6457  
602.605.2525

## **ROCKY MOUNTAIN REGIONAL OFFICE**

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Loveland, CO 80539-3003  
970.461.7200

## **SIERRA NEVADA REGIONAL OFFICE**

114 Parkshore Drive  
Folsom, CA 95630-4710  
916.353.4416

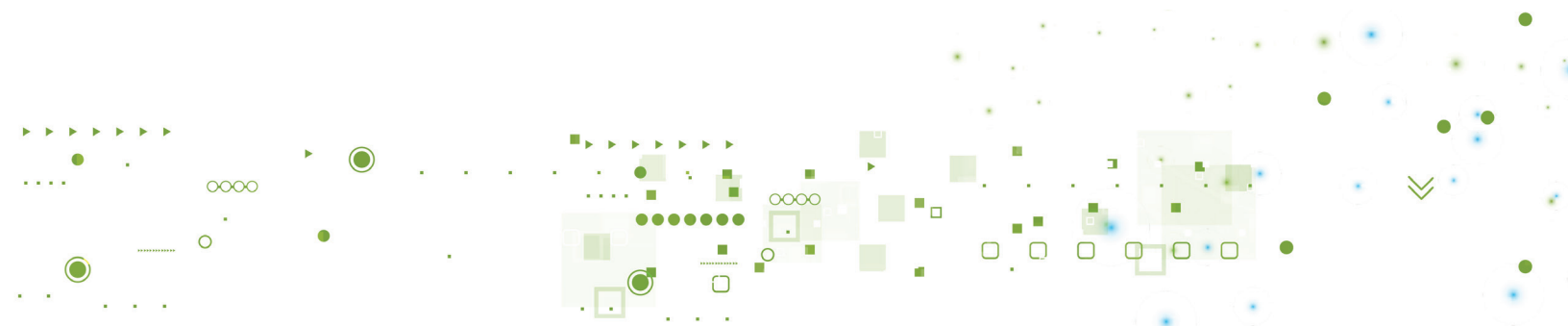
## **UPPER GREAT PLAINS REGIONAL OFFICE**

P.O. Box 35800  
Billings, MT 59107-5800  
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## Western Area Power Administration

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